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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/932,047	08/17/2001	Shin Asari	4351	4504

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Floyd B. Carothers
CAROTHERS AND CAROTHERS
Suite 500
445 Fort Pitt Boulevard
Pittsburgh, PA 15219

EXAMINER

CROWELL, ANNA M

ART UNIT	PAPER NUMBER
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1763

DATE MAILED: 01/13/2003

7

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/932,047

Applicant(s)

ASARI ET AL.

Examiner

Michelle Crowell

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 August 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) 4 and 5 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I, claims 1-3 in Paper No. 6 is acknowledged.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claim 1 is rejected under 35 U.S.C. 102(a) as being anticipated by the admitted prior art.

Referring to Figure 1, the admitted prior art discloses a film forming chamber 10, a film-forming gas introducing pipe 13, a shower plate 5, a film gas exciting means (cathode electrode 4), a radical producing means (radical producing source 11), and a cleaning-gas introducing means 13. The claim does not preclude cleaning gases from going through the showerhead. The showerhead is part of the film-forming chamber, therefore the cleaning-gas introducing means communicates directly with the film-forming chamber.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over admitted prior art in view of Yin et al. (U.S. 6,379,575).

Since claim 1 is a Jepson claim, everything stated before the improvement is considered prior art.

Claim 1 fails to teach the improvement of a cleaning-gas introducing means communicating directly with the film-forming chamber.

Referring to Figure 1, 3, 4 and column 8, line 39 –column 9, line 49, Yin teaches a cleaning gas supply system 220 gas injection nozzle 235 (cleaning-gas introducing means) that provides a cleaning gas through a gas injection nozzle 235 (cleaning-gas introducing means) directly into the chamber 30. The activated cleaning gas is introduced into the etching chamber to clean the etch residue on the walls and components of the etch chamber. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the admitted prior art with the gas injection nozzle as taught by Yin. This would clean the residues on the walls and other components inside a chamber.

In addition, it is well settled that the intended uses of and the particular process gases (i.e. film-forming or cleaning) used in a film-forming apparatus have no significance in determining

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Patentability of apparatus claims. "Expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim."

Ex parte Thibault, 164 USPQ 666, 667 (Bd. App. 1969). Furthermore, "inclusion of material or article worked upon by a structure being claimed does not impart patentability to the claims." In re Young, 75 F.2d 966, 25 USPQ 69 (CCPA 1935) (as restated in In re Otto, 312 F.2d 937, 136 USPQ 458, 459 (CCPA 1963)).

6. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over admitted prior art in view of Yin et al. (U.S. 6,379,575) as applied to claim 1 above, and further in view of Li et al. (U.S. 5,772,771).

Admitted prior art in view of Yin fail to show to cleaning-gas introducing pipes located on opposite walls.

Referring to Figure 1 and column 3, lines 21-46, Li shows nozzles 34 arranged on opposite walls. Process uniformity is improved by providing process gases to a plurality of positions. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the cleaning-gas introducing pipes of admitted prior art in view of Yin on opposite walls as taught by Li. This would ensure that the cleaning gases uniformly cover the interior of the chamber.

7. Claim 3/1 is rejected under 35 U.S.C. 103(a) as being unpatentable over admitted prior art in view of Yin et al. (U.S. 6,379,575) as applied to claim 1 above, and further in view of Yamamoto et al. (U.S. 4,242,595).

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Referring to column 5, lines 41-47, Yamamoto teaches that it is well-known to coat parts exposed to activated gases such as an activated gas conduit 107, a manifold pipe 108, a nozzle pipe 127 (cleaning-gas introducing means), and a reaction chamber 109 with Teflon (polytetrafluoroethylene). This prevents these parts exposed to activated gases from corroding. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the cleaning-gas introducing means of admitted prior art in view of Yin with the Teflon as taught by Yamamoto. This would prevent the cleaning-gas introducing means from corroding, thereby extending the service life of the parts.

8. Claim 3/2 is rejected under 35 U.S.C. 103(a) as being unpatentable over admitted prior art in view of Yin et al. (U.S. 6,379,575) and Li et al. (U.S. 5,772,771) as applied to claims 1 and 2 above, and further in view of Yamamoto et al. (U.S. 4,242,595).

Admitted prior art in view of Yin and Li fail to teach that the cleaning-gas introducing means is coated with polytetrafluoroethylene.

Referring to column 5, lines 41-47, Yamamoto teaches that it is well-known to coat parts exposed to activated gases such as an activated gas conduit 107, a manifold pipe 108, a nozzle pipe 127 (cleaning-gas introducing means), and a reaction chamber 109 with Teflon (polytetrafluoroethylene). This prevents these parts exposed to activated gases from corroding. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the cleaning-gas introducing means of admitted prior art in view of Yin and Li with the Teflon as taught by Yamamoto. This would prevent the cleaning-gas introducing means from corroding, thereby extending the service life of the parts.

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Conclusion


9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michelle Crowell whose telephone number is (703) 305-1956. The examiner can normally be reached on M-F (8:00 - 4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Mills can be reached on (703) 308-1633. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

AMC *AMC*
January 10, 2003


GREGORY MILLS
SUPERVISOR, EXAMINER
TECHNICAL CENTER 100